

PNEUMATICALLY ACTUATED FLEXIBLE COUPLING END EFFECTORS FOR LAPPING/POLISHING

ABSTRACT OF THE DISCLOSURE

Methods and apparatus for end effectors for performing surface lapping using a robotic system are provided. In one embodiment, a lapping system includes a robotic arm and a pneumatic end effector unit. The pneumatic end effector unit includes a first base attached to the robotic arm, a second base, a lapping pad attachable to the second base, and a pneumatic piston system coupled between the first and second bases. An abrasive pad is attached to the lapping pad with a layer of pitch. The pneumatic piston system includes a piston chamber, a piston being slideably received within the piston chamber, and a component for controlling air pressure within the piston chamber. A slurry system introduces a slurry compound into one of the second base or the lapping pad.